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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,706	10/04/2000	David C. Gelvin	78700-020108/US	2275

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EXAMINER	
AVELLINO, JOSEPH E	

ART UNIT	PAPER NUMBER
2446	

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10/20/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/684,706	GELVIN ET AL.	
	Examiner	Art Unit	
	Joseph E. Avellino	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32,34-63,65-81,83-85,91,92,94,95,97,99-101,103,106 and 108-119* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 1-32,34-63,65-81,83-85,91,92,94,95,97,99-101,103,106 and 108-119.

DETAILED ACTION

1. Claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 are presented for examination. Claims 1, 63, 80, and 83-85, 92, 95, 97, 101, 103, 106, and 112 being independent. The Office acknowledges the cancellation of claims 82, 86-90, 93, 96, 98, 102, 104, 105, and 107.

Allowable Subject Matter

2. Claims 1-32, 34-63, 65-81, 83, 106, and 108-119 are allowable over the prior art, however a double patenting rejection is below.

3. The Examiner has left numerous voicemails with the Attorney of Record, Robert Irvine, requesting permission for an Examiner's amendment to get the case in condition for allowance. If independent claims 84, 92, 97, 103, and 106 were amended to include the limitation "wherein the distribution of data processing varies dynamically based on the message priority" (wherein "the message priority" has proper antecedent basis within the claim) and independent claims 85, 95, and 101 (along wither their corresponding dependent claims) were cancelled, as well as the proper filing of a Terminal Disclaimer of the patents/applications below, would put the case in condition for allowance, however no response has been received.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).
A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.
Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-62 of Patent no. 7,020,701 contains every element of claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application and as such anticipates claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application.

6. Claims 1-55 of Patent no. 6,859,831 contains every element of claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application and as such anticipates claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application.

7. Claims 1-61 of Patent no. 6,832,251 contains every element of claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant

application and as such anticipates claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application.

8. Claims 1-68 of Patent no. 6,826,607 contains every element of claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application and as such anticipates claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application.

9. Claims 1-4, 9-14, 16, 18, 20-24, 27-38, 40, 41, 43, and 45-55 of Application no. 09/684,387 contains every element of claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application and as such anticipates claims 1-56 of the instant application.

10. Claims 1-56 of Application no. 09/684,742 contains every element of claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application and as such anticipates claims 1-32, 34-63, 65-81, 83-85, 91, 92, 94, 95, 97, 99-101, 103, 106 and 108-119 of the instant application.

Claim Rejections - 35 USC § 103

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 84, 85, 97, 101, and 103 are rejected under 35 U.S.C. 103(a) as being anticipated by Clare et al. (USPN 6,414,955) (hereinafter Clare) in view of Iyengar et al. ("Information Routing and Reliability Issues in Distributed Sensor Networks" IEEE, 1992) (Hereinafter Iyengar) in view of Wesson et al. ("Network Structures for Distributed Situation Assessment" IEEE, 1981) (hereinafter Wesson).

12. Referring to claims 84, 95, 97, 101, and 103 Clare discloses a sensor network comprising a plurality of network elements including:

at least one node (Figures 1-10) coupled among a monitored environment (col. 6, lines 10-30) and at least one client computer (the Office takes the term "client computer" to be broadly construed as "any node which is accessible by a user of the system") (col. 14, lines 12-34),

wherein functions of the at least one node are remotely controllable using the at least one client computer (col. 14-lines 12-34; col. 15, lines 13-16),

wherein the at least one node provides, after the plurality of network elements are self-assembled into a multi-cluster network (i.e. "after the communicating nodes and the interfering nodes have been identified") node information including node resource cost (i.e. network self-organization and routing) and message priority (i.e. "characteristics and traffic") to the plurality of network elements (col. 4, lines 56-67; col. 15, lines 10-24 and 43-56),

wherein the data processing is distributed through the sensor network including at least one of the elements other than the client computer (i.e. "the new node is

informed of the local network traffic, routing, and communication schedule") in response to the node information (col. 4, line 58 to col. 5, line 2; col. 18, lines 35-64);

wherein the node comprises a first processor to handle acquisition of data from at least one sensor and a second processor to handle signal processing, and the second processor is configured to cycle in and out of a sleep state (i.e. mircroprocessor operates in sleep mode which can be awakened by an interrupt, which is generated by a second processor, when an interesting signal is detected, thereby a first processor performs low power functions and high power functions utilizing multiple processors) (col. 21, lines 5-15).

Clare does not specifically disclose that data processing other than topology setup or addition of a node is distributed through the sensor network. In analogous art, Iyengar discloses another distributed sensor network (DSN) (e.g. abstract) which distributes data to be processed by other data processing units (i.e. "each sensor acts as a knowledge source and communicates to some or all other nodes in the network, to initiate the inference process") (p. 2, col. 1, first paragraph). It would have been obvious to one of ordinary skill in the art to combine the teaching of Iyengar with Clare in order to provide an efficient method of data propagation through the network of Clare in order to take into account link/node failures and their effects on network delay as supported by Iyengar (e.g. abstract).

Clare -Iyengar do not disclose a plurality of levels of synchronization which are energy usage aware. In analogous art, Wesson discloses a plurality of distributed sensors, each with a different level of synchronization with its master and is energy

usage aware (i.e. distributed hierarchical cone provides communications with various layers, based on the reporting requirements of the master, only when energy is detected would a message be created, or to assist in reallocation of messages) (pages 8, 23). It would have been obvious to combine the teachings of Wesson with Clare-Iyengar in order to provide an efficient reporting mechanism between the sensor nodes.

Claims 92, 94, 101, 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-Iyengar in view of Davis et al. (USPN 5,742,829) (hereinafter Davis).

13. Referring to claim 92, Clare-Iyengar discloses the invention substantively as described in claim 84. Clare does not disclose distributing code and data anticipated for future use through the sensor network using low priority messages, wherein the code and the data are downloadable from a storage device. Davis discloses a network wherein distributing code and data anticipated for future use through the sensor network using low priority messages (i.e. in the background), wherein the code and the data are downloadable from a storage device (it is inherent that the code/data are downloaded from a storage device) (col. 6, lines 27-65). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Davis with Clare-Iyengar to facilitate the installation of software on heterogeneous clients on the distributed network, thereby reducing installation costs and reducing downtime as supported by Davis (col. 2, lines 10-15).

14. Claims 94, 101-102 are rejected for similar reasons as stated above.

Claim 91 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-Iyengar-Wesson in view of Makansi et al. (US 2002/0154631) (hereinafter Makansi).

15. Clare-Iyengar-Wesson discloses the invention substantively as described in claim 84. Furthermore it is an inherent feature of Clare-Iyengar to aggregate the data to be transmitted to a user to conserve energy by reducing the amount of packets and saving bandwidth. Clare-Iyengar does not disclose the message packets include decoy packets wherein information to be transferred is impressed on random message packets to provide communication privacy. Makansi discloses message packets include decoy packets wherein information to be transferred is impressed on random message packets to provide communication privacy on a network (e.g. abstract). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Makansi with Clare-Iyengar to provide messages to be transmitted in ways such that potential adversaries are given access to a relatively little amount of information as supported by Makansi (p. 1 ¶ 8).

Claims 99 and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-Iyengar-Wesson in view of Humpleman et al. (USPN 6,546,419) (hereinafter Humpleman).

16. Referring to claims 99 and 100, Clare-Iyengar-Wesson discloses the invention substantively as described in claim 97. Clare-Iyengar does not disclose having the node of the first type containing a preprocessor with a state machine, an API and at least one sensor. Humpleman discloses a home sensor network wherein a first node 14 of a first type (Device A) contains a preprocessor with a state machine running below the OS (it is inherent that a standard microprocessor emulates the effects of a state machine during its pipelining of instructions, fetch, decode, execute, store, etc.), an API (INTERFACE-A.xml), and at least one sensor (h/w) (e.g. abstract; Figure 16; col. 22, lines 52-58). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Clare-Iyengar with Humpleman to be able to control a plurality of diverse devices having different capabilities to communicate in order to accomplish tasks or to provide a service as supported by Humpleman (col. 2, lines 38-45).

Response to Arguments

17. Applicant's arguments filed June 20, 2008 have been fully considered and are not persuasive.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey C. Pwu can be reached on (571)272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph E. Avellino/
Primary Examiner, Art Unit 2446